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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/653,990

09/04/2003

Jyh-Rong Sheu

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06/29/2009

LIN & ASSOCIATES INTELLECTUAL PROPERTY, INC.

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EXAMINER

LIN, JAMES

ART UNIT

PAPER NUMBER

1792

NOTIFICATION DATE

DELIVERY MODE

06/29/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/653,990	Applicant(s) SHEU ET AL.	
	Examiner Jimmy Lin	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/19/2009 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification does not have support for heating and melting of the adhesive materials required in claim 2. Only claim 2 seems to disclose these adhesive materials while the main body of the specification does not exemplify any types of materials. There is no indication in the specification that Applicant had possession of the combination of melting the adhesive material when the adhesive material is one of the groups listed in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. (WO 02/41348, references made are to the English equivalent U.S. Patent No. 7,161,285) in view of Bouchard et al. (U.S. Publication No. 2002/0074932; for better quality drawings of the Figures, see related U.S. Patent No. 7,276,844) and Takeuchi et al. (U.S. Publication No. 2002/0140348).

Okamoto discloses a method of making a field emission cold cathode used in a flat display device such as a field emission display (FED), wherein an emitter is made from carbon nanotubes (CNTs) (col. 1, lines 6-15). An adhesive sheet 221 is brought into contact with a CNT film 212. Pressing of the sheet activates the adhesion and attaches the sheet to the CNT film. The adhesive sheet is then lifted off to cause the CNTs on the surface to be pulled into an upright alignment state (col. 26, line 60-col. 27, line 15). This method increases the number of CNTs exposed on the FED (Fig. 17A-17C). Particulate impurities may be removed upon lifting off of the adhesive material (col. 27, lines 8-15).

Okamoto does not explicitly teach that the adhesive material can be heated and melted for attaching the adhesive to the triode structure of the FED. However, Bouchard teaches a similar method of applying an adhesive material to a CNT-FED structure and removing the adhesive to form a new surface of the CNT or to align the CNTs [0029],[0042]. Bouchard teaches that any material can be used as the particular adhesive [0043]. Accordingly, Takeuchi teaches that a hot-melt adhesive was a well known type of adhesive [0160]. A hot-melt adhesive necessarily requires heating of the adhesive to cause melting. Because Bouchard teaches that any adhesive can be used for a process similar to the method of Okamoto and because Takeuchi teaches that a hot-melt adhesive was an operable type of adhesive, it would have been obvious to one of ordinary skill in the art at the time of invention to have used a hot-melt adhesive as the particular adhesive of Okamoto with a reasonable expectation of success. The selection of something based on its known suitability for its intended use has been held to support a prima facie case of obviousness (MPEP 2144.07).

Claim 2: Takeuchi teaches the use of hot-melt adhesive [0160].

Claim 3: Okamoto teaches that the adhesive sheet sticks to the CNTs (Figs. 17A-17C).

Claim 4: Okamoto teaches that the CNT is set between a cathode plate 211 and a gate 216 in a triode structure (Fig 17).

Response to Arguments

6. Applicant's arguments filed 3/19/2009 have been fully considered but they are not persuasive.

Applicant argues on pg. 5 that an adhesive sheet of Okamoto even if pressed and activated cannot be attached closely and uniformly to the surface of the CNT-FED because of the complication uneven surface of the triode structure. Applicant further argues that the present invention has an unexpected better result of being able to closely and uniformly attaching the adhesive material to the surface of CNT-FED by melting the adhesive material so it can flow and fill the uneven surface. However, objective evidence including evidence of unexpected results must be factually supported by an appropriate affidavit or declaration to be of probative value (MPEP 716.01(c)(I),(II)).

Applicant argues on pg. 5-6 that heat is applied to the adhesive of O'Connor to activate the adhesive property and does not melt the adhesive. However, Bouchard teaches a method similar to that of Okamoto, comprising the steps of applying an adhesive material to a CNT-FED structure and removing the adhesive to form a new surface of the CNT or to align the CNTs [0029],[0042]. Bouchard teaches that any material can be used as the particular adhesive [0043]. Accordingly, Takeuchi teaches that a hot-melt adhesive was a well known type of adhesive [0160]. A hot-melt adhesive necessarily requires heating of the adhesive to cause melting. Thus, the step of heating and melting the adhesive would have been obvious over Bouchard and Takeuchi. The teachings of Bouchard and Takeuchi have been used in place of O'Connor to account for the newly added claim amendments.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Lin whose telephone number is (571)272-8902. The examiner can normally be reached on Monday thru Friday 8AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jimmy Lin/
Examiner, Art Unit 1792

/Timothy H Meeks/
Supervisory Patent Examiner, Art Unit
1792